

S.W. Eddy

JUN 29 1953

Curacao, N.A.
June 25, 1953

To: G. W. Eddy

From: A.H. Baumhover

Subject: Preliminary Report---Curacao survey

Following are fly trap and egg mass data obtained thus far:

Trap Location	Piscadera			
Inclusive dates	5/29-6/1	6/3-8	6/17-20	6/21-23
Quantity in liters	(To Kerr- 5.3	3.5		
No. of screw-worms	ville) 5	25		

Trap Location	Noordkant			
Inclusive dates	6/10-13	6/14-16	6/17-18	6/19-22
Quantity in liters	4.0	7.0	5.0	6.8
No. of screw-worms	51	44	56	51

Animal location	Piscadera									
Dates	6/16	17	18	19	20	21	22	23	24	
Egg masses from: Sheep (1)	4	1	4	2	3	0	8	5	--	
Goat (1)	--	--	0	3	1	0	1	6	3	

Both the traps and infested animals were maintained on plantations where numerous goats or cattle are cared for. It was necessary to service the traps every few days due to the tendency of large numbers of macellaria larvae to consume the bait.

Mr. Bitter is having 6 more traps built and we plan to have at least 1 trap placed on both Bonaire and Aruba.

Seasonal Occurrence

Six reliable individuals having first hand experience with screw-worms have been contacted. The consensus of opinion is that screw-worms are most abundant during January and February, the latter part of the primary rainy season, which occurs November through February. Usually, during May and June a secondary

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Inclusive dates	Exclusive dates	Inclusive dates	Exclusive dates	Dates	
5/29-6/1	6/3-8	6/14-16	6/17-18	6/16	
Quantity in liters (To Kert-ville)	5	Quantity in liters	4.0	Sheep (1)	4
No. of screw-worms	5	No. of screw-worms	51	Goat (1)	1
Placed	5	Placed	44	Placed	1
5/21-23	6/17-20	6/19-22	6/21-24	21	2
	5.5	5.0	5.8	22	3
	5	51	51	23	5
				24	8

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Apparently birth is the primary predisposing factor in screw-worm infestations. Generally, the plantation owners felt that almost all new-born animals would become infested if not treated. Frequently the genitalia of the livestock is infested following parturition. In dogs scabies and ticks appear to be an important factor. However, on cattle, according to Mr. Bitter, ticks are rarely found. Animals shipped in with tick infestations usually are free of them in 2 weeks, without artificial control.

Predisposing Factors

Several plantation owners estimated that they treat 100 or more cases each year. One individual who raises 400 to 600 hogs each year claims that during the rainy season 2 men are required full time to treat infested animals. A local veterinarian usually treats 1 or 2 dogs each week for screw-worms. I personally observed 6 active cases of screw-worms during the week.

The preliminary data suggest that the present screw-worm population on Curacao approaches the peaks of the populations in the Capiva and Trenton areas of Florida, even the Mr. Bitter and the plantation owners are of the opinion that the Curacao population is considerably less than the high populations during the rainy season.

Abundance

Several old-timers remember screw-worms being present on Curacao as far back as 70 years.

History of the Occurrence of Screw-worms on Curacao

Probably more important than rainfall is the seasonal abundance of the screw-worm is the tendency of the bulk of the animals to give birth during the latter part of the primary rainy season, January and February. Heavy showers are not coincident with as heavy a screw-worm population as intermittent showers totaling the same amount of rainfall, the theoretical explanation being that soil erosion, which may take as much as 1 inch of topsoil during showers of 4 or 5 inches, washes pupae and small animal hosts into the sea. Very little rain has fallen for the past 4 months. However, during the current year rainy season occurs with attendant increase in screw-worm populations.

mirrored everywhere country.
Theatergoers naturally are less of them in 3 weeks.
Theater is less popular. Theaters are closed in many places.
Theater. However, on average, according to Mr. Bitter,
in 1908 average and theater attendance to be an increase.

Results of the theater is increased following distribution
some increased it not decreased. Especially the theater-
owners say that winter and non-winter theaters mostly re-
served-movie theaters. Especially the distribution
attendance after is the business distribution theater in

Theatergoers' History

8 weeks average of average-movie quality the week.
Theater each week for average-movie. I personally observed
theaters. A recent distribution naturally shows 1 of 3
season 3 men are reduced last time to fewer theaters
400 to 600 people each week during that quality the theater
100 or more average each week. One investigation was taken
several distribution owners estimated that great theater

theater season 2.
Especially less than the other distribution quality the
one of the obvious that the cinema is business con-
siderable even the Mr. Bitter and the distribution owners
distribution in the cinema and theater areas of the
movie distribution on cinema attendance the books of the
the distribution data indicate that the business average-

Attendance

on cinema is the peak is 10 weeks.
Several other theaters mentioned average-movie rating business

History of the attendance of average-movie on cinema

less of the business rating season, quality and results.
Rank of the theaters to rate after quality the theater
attendance of the average-movie is the tendency of the
theater's movie attendance from rating in the average

theater business and quality theater results into the year.
Theater of theater quality average of 4 or 5 theaters.
rating that year average: after that year as much as
theater quality of rating, the theater's exhibition
movie distribution is independent average rating the
theater average are not consistent with as result a average -

less theater rating has rating for the year 4 months.
movie distribution. However, quality the cinema less
rating season cinema after attendance increase in average-

An estimated 40% of the goats and 10% of the cattle roam the island unnoticed except at the time they are rounded up for slaughter.

Various species of cacti and at least 1 species of needle grass are abundant on the island. Cactus is frequently seen clinging to the animals, but it is not considered to be as important a factor as birth or other causes.

The single herd of hogs observed appeared to be in a very unthrifty condition with scabby and hairless areas very abundant on most of the animals.

Barbed wire, other sharp objects and fighting are no doubt important as predisposing factors for screw-worm infestations.

Hosts Other than Domestic Animals

Little information is available on the number of cases to be found in wildlife. However, rabbits and rats are abundant on the island along with about 350 deer.

Dr. Diemont of the Veterinary Service mentioned observing screw-worms in the leguano, a ki reptile which grows to 3 feet in length.

Current remedies used

Creoline, an emulsion of cresols, coal tar and pyridine in a water soap solution, is the primary larvicide. Calomel is also used and many years ago fish oil was used. The new organic insecticides are not carried in stock on the island, but the plantation owners desiring them usually order them from the U.S.

Cooperation

Mr. Bitter has been exceptionally helpful and he has devoted his entire time to traveling about the island with me to conduct the survey. At his request we visited 5 government officials to explain the purpose of the survey. Subsequently, His Excellency, the governor requested that we meet with him. Everyone appeared to be very much interested in the program.

Shipment of Livestock to Curacao

An average of 5 to 6 shipments of cattle totaling 550 head and an average of 7 to 8 shipments of goats totaling 1200 head are received each month in Curacao.

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Miscellaneous costs

Since a large percent of the commodities used on the island are shipped in, living costs are generally 15 to 25% higher than in the U.S. The cost of lean ground beef is approximately 85¢ per pound; goats are \$10 to \$15 per head, and the estimated cost of feeding 1 goat 1 day is 30¢.

Except for the quarantine problem the island appears very suitable for an eradication program. The apparently high populations of screw-worms may necessitate 200 or 300 sterile males per square mile per week, but the small area of the island, I think, would be in our favor, since I feel that our chance for success would be in some degree indirectly proportional to the size of the area.

I plan to remain on Curacao until Monday, July 6. In the meantime I expect to observe additional infested animals for egg mass records and to operate additional traps. If you have additional instructions I hope to hear from you before July 6.

Alfred H. Baumhauer

cc: E.F. Knipling
R.C. Bushland

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cc: R.F. Knight
R.O. Bushland